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moving the radiation shield protector to unblock the radiation source opening by activating a key outside of a housing of the camera; and
moving a radiation source from within the camera through the radiation source opening.

REMARKS

In response to the Office Action mailed May 8, 2002, Applicant requests reconsideration in view of the foregoing amendments and the following remarks. Claims 1, 9, 16, 22, 27, 32 and 37 have been amended. Upon entry of this amendment, claims 1-40 are pending, with claims 1, 9, 16, 22, 27, 32 and 37 being independent claims.

Claim Rejections - 35 U.S.C. § 112

Claims 9, 16, 22 and 27

In the Office Action, the Examiner rejected claims 9, 16, 22 and 27 under 35 U.S.C. § 112, second paragraph, as being indefinite. Specifically, the Examiner stated that it was not clear from the claims whether “shield” is a “radiation” shield or “source” is a “radioactive” source. Applicant believes that it is clear from the language of the claims that the shield is a “radiation” shield and the source is a “radioactive” source, as claim 9 is directed to a shield assembly for a radiographic camera, claim 16 is directed to a radiographic camera apparatus, claim 22 is directed to a connector assembly for a radiographic camera, and claim 27 is directed to a radiographic camera apparatus. However, Applicant has amended claims 9, 16, 22 and 27 to further clarify that the recited shield is a radiation shield and the recited source is a radioactive source. Applicant believes that the rejection under 35 U.S.C. § 112, second paragraph, should be withdrawn.

Applicant has also amended claim 1 to recite that the handle is constructed and arranged to carry the camera. Claim 9 has been additionally amended to move the language in the preamble of the claim into the body of the claim. Applicant has also amended claims 22, 32 and 37 to clarify that the shield protector is a “radiation” shield protector. Claim 32 has been additionally amended to recite that the key is located outside the camera. Claim 37 has also been additionally amended to recite that the radiation shield protector unblocks the radiation source opening by activating a key outside of a housing of the camera.

Claim Rejections 35 U.S.C. § 103

Claims 1-40 are rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Pat. No. 5,272,349 to Perry, III (Perry) in view of U.S. Pat. No. 4,943,731 to Brown (Brown). Applicant notes that the specific teachings relied on in Perry and Brown for each element of each independent claim were not separately set forth. Only a list of elements found in each reference generally relating to the independent claims was set forth, making it difficult to determine the specific teachings that the Examiner relies on for the rejection of each independent claim.

Claims 1-8

Independent claim 1 is directed to a jacket for a radiographic camera. The jacket includes a front end of the jacket and a back end of the jacket opposite the front end. A handle is positioned between the front and back ends of the jacket. The handle is constructed and arranged to carry the camera, and a reinforcement structure in the handle supports the handle.

The Examiner states that Perry and Brown disclose the jacket of claim 1 and concludes that it would have been obvious to one of skill in the art at the time of the invention to modify Perry's method and apparatus to incorporate the features of Brown. The Examiner further concludes that Perry discloses a housing and that Brown would supply the missing teaching and that it would have been obvious to make the housing of polyurethane and add a handle with a ferrule and a knob. Applicant respectfully traverses.

Applicant believes that the Examiner has not fully understood the jacket claimed in claim 1. One particular non-limiting embodiment of the jacket claimed in claim 1 is shown in Figures 6-9. Moreover, one particular non-limiting embodiment of the reinforcement structure in the handle of a jacket is shown in Figures 10-13 of the application. Applicant notes that the Examiner has failed to allege that either Perry or Brown disclose a handle with a reinforcement structure as claimed in claim 1.

Perry simply fails to disclose a jacket for a radiographic camera that includes a handle positioned between the front and back ends of the jacket and a reinforcement structure in the handle that supports the handle. Moreover, Brown fails to supply these missing teachings. Brown does not teach or suggest a reinforcement structure in a handle of a jacket for a radiographic camera. Applicant requests that the Examiner specifically point out where Perry or Brown disclose or teach these recited elements of claim 1. As there is no teaching or suggestion

of the claimed reinforcement structure in a handle, Applicant submits that claim 1 patentably distinguishes over Perry and Brown.

Claims 2-8 depend from claim 1 and are patentable for at least the same reasons.

Claims 9-15

Amended independent claim 9 is directed to a radiographic camera. The radiographic camera includes a housing containing a radioactive source surrounded by a radiation shield assembly. The shield assembly includes a radiation shield having a first shield end and a second shield end and an endplate having a first surface that is secured to the first shield end.

The Examiner states that Perry discloses the shield assembly of claim 9, including a radiation shield and an endplate. Applicant respectfully traverses.

Perry does not disclose a radiation shield having an endplate with a first surface secured to the first shield end as claimed in claim 9. Perry discloses a housing 10 covered by shield 12 that can prevent the escape of harmful radiation. (See Perry, col. 3, lines 7-10). However, the shield 12 of Perry is not contained in the housing 10 and the shield 12 of Perry does not have any endplates with a first surface secured to a first end of the shield. The Examiner points to several passages in Perry for the teaching of a shield and endplates; however, Applicant fails to see how these passages teach or suggest the claimed arrangement of claim 9. For example, the Examiner references the specification of Perry at col. 3, lines 29-32, 35-40, 49-50 and 55-60. These passages do not teach or suggest an endplate, nor an endplate having a first surface secured to a first shield end. The specification of Perry discloses a door 38 for securing the cover 16 (of Fig. 3) onto the base 42. This door 38 does not have a first surface secured to the shield 12. Instead, the door 38 is hingedly connected at one end of the door to an edge of the base 42 and is lockable into a closed position against cover 16 when it is placed onto the base 42 for shipment of the apparatus A. (See Perry, col. 3, lines 29-34). Applicant submits that Perry does not disclose the claimed radiographic camera of claim 9. Moreover, Brown fails to supply the missing teachings of Perry. For example, Brown fails to disclose any radiation shield assembly contained in a housing with a first surface of an endplate secured to a first end of a radiation shield.

Thus, claim 9 patentably distinguishes over Perry in view of Brown.

Claims 10-15 depend from claim 9 and are patentable for at least the same reasons.

Claims 16-21

Amended independent claim 16 discloses a radiographic camera apparatus. The radiographic camera apparatus includes a housing having an interior chamber with a first opening and a second opening formed therein. A lock assembly is provided at the first opening and a connector assembly at the second opening. A conduit within the housing communicates with the lock assembly and the connector assembly. A pathway is formed by the conduit to an exterior of the housing through the connector assembly, and a radiation shield surrounds the conduit within the housing, the radiation shield secured to the housing.

The Examiner asserts that Perry discloses the radiographic camera apparatus claimed in claim 16 including the housing, locking means and the shield, and that Brown supplies the missing teachings of a connector assembly, a conduit and a pathway. Applicant respectfully traverses the rejection.

As stated by the Examiner, Applicant agrees that Perry fails to disclose at least the connector assembly, the conduit and the pathway. Applicant submits that Brown fails to supply these missing teachings, that one of ordinary skill in the art would not have been motivated to combine Brown with Perry, and that their combination would not result in the claimed invention. First, Brown fails to teach a connector assembly provided at the second opening of the housing as claimed. Instead, Brown teaches a router 26 provided removed from the inserter 24 at the end of a tube 28 extending from the inserter 24. (See Brown, col. 4, lines 33-65). There is no suggestion that the router 26 be provided at an opening of the inserter 24. Moreover, Brown fails to disclose a radiation shield surrounding the conduit within the inserter 24.

Furthermore, there is no motivation to combine Brown with Perry, as they are two different radiological cameras that function differently. Perry is directed to an apparatus for transport and insertion of radioactive sources into wells for use in measuring properties of materials in vessels. The source holders 24 of Perry are loaded onto a belt 22 that is lowered into a well 18, while Brown is directed to an apparatus for handling radioactive source assemblies and features a source that is shuttled from an inserter 24, through a tube 28, a router 26 and through more tubing 32 into a camera.

Moreover, if Perry and Brown were combinable, which Applicant does not concede, their combination would not result in the shield of Perry surrounding the conduit and pathway of

Brown. The router 26 of Brown would not be provided at either an opening of the inserter 24 of Brown or the housing 10 of Perry.

In conclusion, Brown fails to supply the missing teachings of at least a connector assembly provided at an opening of the housing. Moreover, there is no suggestion or motivation to combine the references, and their combination, assuming they could somehow be combined, would not result in the invention of claim 16.

Thus, claim 16 patentably distinguishes over Perry in view of Brown.

Claims 17-21 depend from claim 16 and are patentable for at least the same reasons.

Claims 22-26

Amended independent claim 22 discloses a connector assembly for a radiographic camera. The connector assembly includes a housing containing a radioactive source and a pathway surrounded by a radiation shield. A first end of the housing has a first opening at a first endplate in communication with the pathway. A radiation shield protector is adapted to selectively block and unblock the first opening. A front plate is adjacent the radiation shield protector, the radiation shield protector is provided between the first endplate and the front plate. The front plate has a second opening aligned with the first opening and is adapted to receive a guide cable fitting that allows the radiation shield protector to unblock the first opening and expose the radioactive source.

The Examiner concludes that Perry discloses the connector assembly for the radiographic camera as claimed in claim 22, including the housing, radioactive source and radiation shield, and that Brown supplies the missing teaching of a pathway. Applicant respectfully traverses these rejections.

Applicant notes that the Examiner has failed to allege that either Perry or Brown discloses a radiation shield protector. Applicant submits that Perry and Brown at least do not teach a radiation shield protector provided between the first end plate and a front plate as claimed in claim 22. As discussed above, Perry fails to teach or suggest a housing containing a radiation shield having an endplate at a first opening of the housing. Moreover, Perry fails to teach or suggest a radiation shield protector provided between the first endplate and a front plate at the housing. Brown also fails to teach or suggest a shield protector provided between the first endplate and the front plate at the housing. Brown discloses a router 26 having two disc-like

rotors 86 and 91 that rotate with respect to one another; however, Brown teaches placement of the router 26 displaced from the inserter 24, and connected thereto by a tube 28. (See Brown, col. 4, lines 33-65). There is no suggestion or motivation to move the router 26 to the inserter 24. Moreover, Brown fails to disclose a radiation shield. Brown does not teach or suggest a radiation shield protector provided between an endplate and a front plate at the inserter. Thus, Brown fails to supply the missing teachings of Perry.

Thus, claim 22 patentably distinguishes over Perry and Brown.

Claims 23-26 depend from claim 22 and are patentable for at least the same reasons.

Claims 27-31

Amended independent claim 27 is directed to a radiographic camera apparatus. The radiographic camera apparatus includes a housing having an interior chamber, a first opening and a second opening formed by the housing. A lock assembly is in communication with the housing at the first opening. A front plate has an interior and an exterior surface defining a hole, the front plate is in communication with the housing at the second opening to align the hole with the second opening. A conduit is within the housing and in communication with the lock assembly at one end and the front plate at the other end. A pathway is formed by the conduit to an exterior of the housing through the front plate. A rotor rotatably is attached to the interior surface of the front plate, the rotor defining a first rotor hole aligned with the second opening and having a radiation shield therein, and the rotor defining a second rotor hole for alignment with the second opening upon rotation of the rotors.

The Examiner concludes that Perry teaches the radiographic camera apparatus as claimed in claim 27, including a housing and a lock assembly and that Brown supplies the missing teachings of a conduit, a pathway, and a rotary means. Applicant respectfully traverses.

Perry fails to disclose at least a rotor rotatably attached to the interior surface of a front plate, the front plate at the second opening of the housing as claimed in claim 27. However, Brown also fails to disclose these missing teachings. Brown discloses a router 26 having two disc-like rotors 86 and 91 that rotate with respect to one another; however, Brown teaches placement of the router 26 displaced from the inserter 24 and connected thereto by a tube 28. (See Brown, col. 4, lines 33-65). The rotors may be rotated 180° to reverse the alignment of ports 88, 90, 92 and 94 on the rotors. However, none of the ports 88, 90, 92 and 94 feature a

radiation shield. Thus, the disc-like rotors 86 and 91 of Brown are not taught to be provided at the inserter 24 and rotatably attached to an interior surface of a front plate at the second opening of the housing. Applicant submits that there is no suggestion or motivation to move the router 26 of Brown to the inserter 24 or to move either of the disc-like rotors to an interior surface of a front plate, such that it would be provided within the inserter 24. There is also no teaching to provide a radiation shield in any of the ports of the rotors. Thus, Brown fails to supply the missing teachings of Perry.

Thus, claim 27 patentably distinguishes over Perry and Brown.

Claims 28-31 depend from claim 27 and are patentable for at least the same reasons.

Claims 32-36

Amended independent claim 32 is directed to a connector assembly for a radiographic camera. The connector assembly including a connection element adapted to engage with a guide cable, the connection element includes an opening aligned with a radiation source opening in the camera through which a radiation source can pass. A radiation shield protector may be moved between blocking and unblocking positions, where in the blocking position the radiation shield protector blocks the radiation source opening and in the unblocking position the radiation shield protector does not block the radiation source opening. A lock is adapted to lock the radiation shield protector in the blocking position and is adapted to unlock the radiation shield protector upon activation of a key located outside the camera to allow the radiation shield protector to move to the unblocking position.

The Examiner concludes that Perry and Brown disclose a connector assembly for a radiographic camera as claimed in claim 32. Applicant respectfully traverses the rejection.

Neither Brown nor Perry disclose the connector assembly as claimed in amended claim 32. The shields disclosed in Perry include the shield 12, which covers the housing 10, and shield 58 which may be pulled to expose slot 62. Perry fails to disclose or suggest a radiation shield protector with a lock adapted to unlock the radiation shield protector upon activation of a key outside the camera. Brown discloses two disc-like rotors that rotate with respect to one another; however, Brown does not teach that these include any radiation shield moveable between blocking and unblocking positions.

Thus, claim 32 patentably distinguishes over Perry and Brown.

Claims 33-36 depend from claim 32 and are patentable for at least the same reasons.

Claims 37-40

Amended independent claim 37 is directed to a method of operating a radiation camera. The method includes the steps of unlocking a radiation shield protector that blocks a radiation source opening in the camera, moving the radiation shield protector to unblock the radiation source opening by activating a key outside a housing of the camera, and moving a radiation source from within the camera through the opening in the radiation shield protector.

The Examiner concludes that claim 37 is unpatentable over Perry as Perry discloses a method of operating a radiation camera, comprising the steps of unlocking a shield that blocks the radiation source so as to unblock the radiation source opening and moving a radiation source from within the camera through the radiation source opening. Applicants respectfully traverse the rejection.

Perry fails to disclose the claimed method of amended claim 37. Perry does not have any shield protectors that may be locked and unlocked by activation of a key outside a housing of the camera. For example, the shield 12 of Perry covers the housing 10, it is not disclosed as being lockable or unlockable, nor can shield 12 be moved from a position blocking a radiation source opening to a position unblocking a radiation source opening. Perry also discloses shield 58 that may be pulled to expose slot 62, but shield 58 is not moved to the unblocking position by activating a key outside of the housing. Perry fails to teach or suggest that moving the radiation shield protector to unblock the radiation source is achieved by activating a key outside the housing of the camera. Thus, Perry does not disclose or suggest the method of amended claim 37. Moreover, Brown does not supply these missing teachings as Brown does not disclose or teach any radiation shield protectors.

Thus, claim 37 patentably distinguishes over Perry and Brown.

Claims 38-40 depend from claim 37 and are patentable for at least the same reasons.

CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,

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MARKED-UP CLAIMS

1. A jacket for a radiographic camera, comprising:
 - a front end of the jacket;
 - a back end of the jacket opposite the front end;
 - a handle positioned between the front and back ends of the jacket, handle constructed and arranged to carry the camera; and
 - a reinforcement structure in the handle that supports the handle.

9. (Amended) [In a]A radiographic camera [having]comprising: a housing containing a radioactive source surrounded by a radiation shield assembly, the shield assembly [comprising:]including,
 - a radiation shield having a first shield end and a second shield end; and
 - an endplate having a first surface that is secured to the first shield end.

16. (Amended) A radiographic camera apparatus, comprising:
 - a housing having an interior chamber with a first opening and a second opening formed therein;
 - a lock assembly provided at the first opening;
 - a connector assembly provided at the second opening;
 - a conduit within the housing that communicates with the lock assembly and the connector assembly, a pathway formed by the conduit to an exterior of the housing through the connector assembly; and
 - a radiation shield surrounding the conduit within the housing, the radiation shield secured to the housing.

22. (Amended) A connector assembly for a radiographic camera, comprising:
 - a housing containing a radioactive source in a pathway surrounded by a radiation shield;
 - a first end of the housing, having a first opening at a first endplate in communication with the pathway;
 - a radiation shield protector adapted to selectively block and unblock the first

opening;

a front plate adjacent the radiation shield protector, the radiation shield protector provided between the first endplate and the front plate, the front plate having a second opening aligned with the first opening and adapted to receive a guide cable fitting that allows the radiation shield protector to unblock the first opening and expose the radioactive source.

27. (Amended) A radiographic camera apparatus, the apparatus comprising:

a housing having an interior chamber, a first opening and a second opening formed by the housing;

a lock assembly in communication with the housing at the first opening;

a front plate having an interior and an exterior surface and defining a hole, the front plate in communication with the housing at the second opening to align the hole with the second opening;

an conduit within the housing and in communication with the lock assembly at one end and the front plate at the other end, a pathway formed by the conduit to an exterior of the housing through the front plate; and

a rotor rotatably attached to the interior surface of the front plate, the rotor defining a first rotor hole aligned with the second opening and having a radiation shield therein, and the rotor defining a second rotor hole for alignment with the second opening upon rotation of the rotor.

32. (Amended) A connector assembly for a radiographic camera, comprising:

a connection element adapted to engage with a guide cable, the connection element including an opening aligned with a radiation source opening in the camera through which a radiation source can pass;

a radiation shield protector that may be moved between blocking and unblocking positions, where in the blocking position the radiation shield protector blocks the radiation source opening and in the unblocking position the radiation shield protector does not block the radiation source opening; and

a lock that is adapted to lock the radiation shield protector in the blocking position and is adapted to unlock the radiation shield protector upon activation of a key located outside the camera to allow the radiation shield protector to move to the unblocking position.

37. (Amended) A method of operating a radiation camera, comprising:

unlocking a radiation shield protector that blocks a radiation source opening in the camera;

moving the radiation shield protector to unblock the radiation source opening by activating a key outside a housing of the camera; and

moving a radiation source from within the camera through the radiation source opening.